

Drawings

A new drawing sheet containing Figures 8 and 9 is enclosed. Figure 8 shows the glue applicator (23) mounted above the supporting surface and Figure 9 shows the second retractable finger (18). These features of the claims are therefore shown in the drawings.

No new matter is added by these drawings. The specification states at page 7, lines 13 -15 (page and line numbers ref to the published PCT application) that "the glue applicator 23 may be positioned between and above the support surfaces 21, 22 and aligned so as to apply glue to the outside of the fold line of the sheet 2". The glue applicator shown in Figure 8 is the same as that shown in Figure 3, reoriented as set out in the text. The description also states at page 9, lines 1 - 4 that "It will, of course, be apparent, that the upstream blades 18 may be replaced by a finger similar to the downstream finger or that the downstream finger may comprise a pair of blades similar to the upstream blades 18". According, new Figure 9 illustrates the upstream blades 18 of Figure 4 replaced by a second finger of the same design as the retractable finger 17 also shown in Figure 4.

REMARKS

112 rejections

The Examiner rejected claim 24 under 35 USC § 112 for various reasons. As stated above in the Drawings remarks, it is clear that the specification does describe an arrangement with both first and second retractable fingers: "the upstream blades 18 may be replaced by a finger similar to the downstream finger". That is, this claim is fully supported. This claim has been amended to depend from claim 23, not 18, as correctly noted by the Examiner.

Reference to "the retractable fingers" has been amended to "the second retractable finger", for which there is antecedent basis in the claim. The first retractable finger is already specified in claim 23 as being above the stacking area.

102 and 103 rejections

Claims 18, 19 and 22 have been rejected as being anticipated by US 4,050,686 (McCain). McCain is concerned with the production of glue-backed signatures. A signature is a multi-sheet product that forms a part of a book or a booklet. The apparatus described by McCain makes use of four printed webs (see Figure 15), whose outputs are stacked to produce a signature. Glue is applied to each web as it is withdrawn from a respective roll, along a center line that becomes the spine of the book when the signatures are folded to book form. This glue line holds the webs together to form the signature. It is clear therefore that the disclosure of McCain

differs from what is claimed in that the glue is applied prior to folding multiple sheets: "the product produced at the knife station is to be folded along the glued back" (column 6, lines 19-20). Apparatus in accordance with the claimed invention however is set first to fold individual sheets: "a sheet folding apparatus for individually folding sheets along a fold line". The folding apparatus of McCain (item 340) is specified at column 7, lines 29 - 42 to act on signatures or multi-sheet products. Secondly, in the claimed invention, glue is applied to the folded sheets. This is clear both from the Figures and throughout the specification. In order to clarify this distinction, claim 18 is now amended to specify: "a supporting surface on which the folded sheets are supported as adhesive is applied". McCain does not disclose a supporting surface that supports folded sheets as the glue is applied. The glue is applied prior to folding as the web is withdrawn from the roller: "a sharp fold is facilitated by the glue beads" (column 7, lines 41 - 42).

Claim 18, as amended, and dependent claims are novel with respect to the disclosure of McCain.

Turning now to the 35 USC § 103 rejections that the claims are obvious in view of the prior art. The Examiner first rejects claims 18, 19, 23 - 25 as being unpatentable over WO 01/34403 (Cracknell) in view of US 2001/0048862 (Baumann). As acknowledged by the Examiner, Cracknell does not disclose an adhesive applicator. Baumann discloses an adhesive applicator but, crucially, this is

applied to pre-folded products or signatures after they are stacked. That is, incorporating the adhesive applicator of Baumann in the binding system of Cracknell would result in the stitcher being replaced by the adhesive applicator. The stitcher in Cracknell operates on already stacked sheets; as does the adhesive applicator of Baumann. There is simply no teaching that would lead one to modify the applicator of Baumann to operate on individual sheets prior to stacking, as required by claim 18: "as adhesive is applied from an adhesive applicator to the fold line of selected sheets prior to stacking".

The problem with the process described in Baumann is that it lacks flexibility. In the first instance it cannot cope with booklets with more than a few sheets. The bound product is limited in the number of its sheets to one more than the number of gluing stations. If a 20 sheet product is prepared by the process disclosed in Baumann, 19 gluing stations would be needed to apply adhesive to the upper surface of all except the top sheet, which could be a cover sheet. This becomes impracticable when larger booklets are required to be produced. For this reason Baumann states that his process can be applied to pre-folded products or signatures that have been joined to one another in a previous work step (e.g. thread sealing), see end of paragraph [0015]. This addresses the problem stated in Baumann of reducing the danger posed by wire staples to small children in removing them from the outermost sheet, but cannot provide any advantages of a purely adhesive-bound

booklet of more than a few sheets in size.

As further evidence of the flexibility of the present invention, individual sheets fed to the folding apparatus may be separately sourced: they can therefore be of different colours, material or thicknesses. Moreover any number of sheets can be stacked to form a booklet.

It accordingly follows that the present invention as set out in claim 18 is therefore inventive over Cracknell in view of Baumann.

It is noted that in rejecting claims 23 - 25 on this basis, the Examiner refers to item 21 of Cracknell as a "retractable finger". Item 21 indicates pairs of vanes that operate to support folded sheets as they are stacked. The vane is clearly (see Figure 3) not a finger. Nor is it retracted, as such, being merely rotatable out of position.

Finally, claims 20 and 21 are rejected as being unpatentable over Cracknell and Baumann as above, further in view of US 5,716,182 (Leu). Leu shows in Figs 3A - 3D a perforating needle that passes through a stack of sheets into a pot of adhesive. The adhesive is applied to the inside fold of the stack of sheets as the needle is withdrawn. Other embodiments describe the adhesive applied to the outside fold as the needles pierce the stack. In all these embodiments however, the adhesive is applied to a stack of sheets and not "to the fold line of selected sheets prior to stacking", as required by the present invention. That is, the combination of

Cracknell, Baumann and Leu still cannot render the claims obvious.

New claim 37 corresponds to claim 36, rewritten as dependent on claim 18 and without reference to unelected claim 26, which clearly provides basis for the wording used.

Conclusion

In view of the foregoing amendment and remarks, the Applicant respectfully requests allowance of all pending claims, and allowance at an early date would be appreciated.

Should the Examiner have any questions or comments, the Examiner is invited to contact the undersigned by telephone so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,

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